

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 99-066
NPDES PERMIT NO. CA0038776

WASTE DISCHARGE REQUIREMENTS FOR:

CALERA CREEK WATER RECYCLING PLANT
CITY OF PACIFICA
SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The City of Pacifica, hereinafter called the discharger, submitted a Report of Waste Discharge for issuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES). The application was submitted for the recently completed Calera Creek Water Recycling Plant (CCWRP). The CCWRP was constructed to replace the Pacifica Wastewater Treatment Plant (WWTP) and associated ocean outfall, which had recurrent violations of NPDES permit limitations during the rainy season.
2. The discharge from the WWTP is presently regulated by Waste Discharge Requirements in Order No. 94-112, adopted by the Board on September 21, 1994. The Board adopted Cease and Desist Order No. 93-112 on September 15, 1993, for permit violations and outfall deficiencies. The CCWRP was constructed, in part, to address the deficiencies of the WWTP facilities.
3. The City of Pacifica owns and operates the Calera Creek Water Recycling Plant (CCWRP), which provides tertiary treatment of domestic wastewater from the City of Pacifica. The treatment plant has an average dry weather treatment capacity of 3.3 million gallons per day (MGD), and a peak dry weather treatment capacity of 7 MGD. The CCWRP was designed to treat a peak hourly wet weather flow of 20 MGD. In 1997, the WWTP discharged an average annual flow of 3.05 MGD. When startup and testing phases for the CCWRP are complete in 1999, it is expected to discharge at approximately the same flow rate as the WWTP.
4. Tertiary effluent from the CCWRP is discharged via a cascade aerator structure into Calera Creek, a tributary of the Pacific Ocean. The portion of Calera Creek between the discharge structure and the Pacific Ocean is a restored wetland, with an intermittent drainage to the Pacific Ocean. The water surface elevation of the discharge at the cascade aerator entrance weir is approximately 2 to 3 feet above the water surface elevation of Calera Creek during a 100-year storm event (i.e., at 800

cfs). The coordinates of the discharge location are 37 deg. 36 min. 53 sec. north latitude, and 122 deg. 29 min. 16 sec. west longitude. Calera Creek empties into the Pacific Ocean approximately 0.52 miles downstream of the CCWRP discharge point. A general site map is included as Attachment A.

5. The U.S. Environmental Protection Agency (USEPA) and the Board have classified this discharge as a major discharge.
6. Wastewater is conveyed to the treatment plant by force mains from the north and south. North of the plant, wastewater flows by gravity to the Sharp Park Pump Station (located at the former WWTP site), approximately one mile north of the CCWRP, where it is pumped to the CCWRP through a force main. Wastewater from the area south of the plant also flows to the CCWRP via a force main, which originates at the Linda Mar pump station, approximately three miles south of the plant. Bulk lime feeders located at the two pump stations are used to elevate the pH of the wastewater in the force mains in order to control odors at the plant headworks and reduce corrosion of the steel force main pipes.
7. The treatment processes at the CCWRP consist of screenings at the Sharp Park and Linda Mar pump stations, grit removal, sequencing batch reactors (SBRs) for secondary treatment and ammonia removal, filtration, and ultraviolet light disinfection. Treated effluent is discharged to a wetland restoration project along Calera Creek, waters of the United States.
8. Sludge from the SBRs is stored in waste activated sludge (WAS) storage basins which are aerated prior to thickening with gravity belt thickeners. After thickening, the sludge is digested in autothermophilic aerobic digesters (ATAD), then dewatered with centrifuges. Dewatered sludge is hauled away for land disposal at authorized sites. A treatment process schematic diagram is included as Attachment B.
9. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated Plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board (State Board) and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the state in the Region, including surface waters and groundwaters.
10. Although the Basin Plan does not specifically designate beneficial uses for Calera Creek, it states that inland surface waters such as Calera Creek support or could support most of the beneficial uses described in the Basin Plan. The specific beneficial uses for inland streams, according to the Basin Plan, include:

- Municipal and Domestic Supply
 - Agricultural Supply
 - Industrial Process Supply
 - Groundwater Recharge
 - Water Contact Recreation
 - Non-contact Water Recreation
 - Wildlife Habitat
 - Cold Freshwater Habitat
 - Warm Freshwater Habitat
 - Fish Migration
 - Fish Spawning
11. The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) prohibits the discharge of wastewater which has characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof. Discharge of treated wastewater to Calera Creek is contrary to this prohibition because it does not provide a minimum initial dilution of at least 10:1.
 12. There are three mechanisms by which a municipal discharger may qualify to be granted an exception to the Basin Plan prohibition described in Finding 11. Exceptions will be considered by the Regional Board where: (1) an inordinate burden would be placed on the discharger relative to beneficial uses protected, and an equivalent level of environmental protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability, or (2) a discharge is approved as part of a reclamation project (i.e., water recycling), or (3) it can be demonstrated that net environmental benefits will be derived as a result of the discharge.
 13. The Board finds that an exception to the discharge prohibition is warranted for the shallow water discharge of the Calera Creek Water Recycling Plant (CCWRP) and associated wetlands restoration project based on all three exception mechanisms. First, value engineering found that the deep water discharge (ocean outfall) associated with the existing WWTP has placed a demonstrably inordinate burden on the discharger. The newly constructed CCWRP provides an equivalent level of environmental protection based on its higher tertiary treatment (nitrification, denitrification, and filtration) and shallow water discharge limits for conventional pollutants and metals (Section B of the permit). Second, as described in Finding 14, the CCWRP includes a wastewater reclamation project. Third, the new discharge location will result in a net environmental benefit, as described in Finding 15.
 14. The Board finds that an exception to the discharge prohibition is warranted based on the discharger's water recycling program, which will serve the nearby Sharp Park golf course, various City parks and play fields, roadside watering, miscellaneous projects,

and potentially the development of the adjacent quarry. The discharger has reviewed potential users in the vicinity of the CCWRP and estimates that an annual average of 0.8 MGD (900 acre-feet/year) may be used for water recycling based on identified users.

<u>Potential User</u>	<u>Projected Annual Use (MGD)</u>
Sharp Park Golf Course	0.4
City of Pacifica Parks and Play Fields	0.1
Caltrans Highway Landscape Irrigation	0.2
Miscellaneous Projects	0.1

15. The Board finds that an exception to the discharge prohibition is warranted for the wetlands restoration project (where water may be released on a year-round basis as necessary for maintenance of the wetlands), as it provides a net environmental benefit and will provide for the creation, enhancement, restoration, and maintenance of wetlands habitat.
 - A. The discharger has constructed a wetland project located along Calera Creek in the former Rockaway Beach Quarry, where the existing wetlands were significantly degraded. The project receives an annual average of 3 MGD tertiary effluent, creating an 8.7-acre fresh/brackish/salt marsh that discharges to the Pacific Ocean.
 - B. The marsh will be operated to demonstrate a net environmental benefit, and as such qualifies for an exception to the discharge prohibition for shallow water dischargers.
 - C. The Board adopted Resolution No. 94-086 specifically establishing its Policy regarding the use of wastewater to create, restore, and/or enhance wetlands. Resolution No. 94-086 states that demonstration of net environmental benefit is the guiding criteria for granting an exception to the Basin Plan prohibition listed above. The Discharger submitted a Wetlands Monitoring Plan in August 1996, originally prepared for Coastal Development Permits (Nos. 1-95-40 and 1-95-59), that outlines operations of the marsh project, future enhancement of the marsh, and a program for protection of rare and endangered species. Implementation of this Wetlands Monitoring Plan by the Discharger is a condition for granting the Basin Plan exception to Discharge Prohibition A.1. As vegetation and animals in the forested wetland ecosystem increase, additional studies to monitor the health of the wetlands will be considered.
 - D. The Department of Health Services' wastewater reuse guidelines require that the discharge to the marsh should not exceed a median coliform limit of 23 MPN/100ml to protect public health. Effluent Limitation B.4 implements the guidelines.

16. Because Pacifica's discharge point is only 0.52 miles away from the Pacific Ocean, there is a possibility that the discharge may degrade the beneficial uses of the Pacific Ocean. Since this is a new discharge point, there is no previous monitoring data to perform a reasonable potential analysis. Effluent limitations for toxic pollutants in this permit have been developed for the constituents for which the discharge from the existing WWTP poses a reasonable potential to cause or contribute to exceedances of water quality objectives. To characterize the actual discharges from the Calera Creek Plant, a monitoring station is established at a point after the restored wetland and before the waters of Calera Creek mixes with the Pacific Ocean. The discharger is required to establish a comprehensive monitoring program to collect data for a future reasonable potential analysis.
17. Effluent limitations in this permit are based on the plans, policies, and water quality objectives and criteria of the Basin Plan, *Quality Criteria for Water* (EPA 440/5-86-001, 1986; Gold Book), Applicable Federal Regulations (40 CFR Parts 122 and 131), the National Toxics Rule (57 FR 60848, 22 December 1992; NTR), the proposed California Toxics Rule (WH-FRL-5866-9, 7 August 1997; CTR), and best professional judgment.
18. The Regional Board issued Cease and Desist Order No. 93-112 to the City of Pacifica for violations of the NPDES permit for the former WWTP and for a deficient ocean outfall. In that order, the Board found that the WWTP had practically no redundancy or backup system, and was therefore extremely unreliable in responding to critical conditions (e.g., wet weather or process unit repairs) without causing violations of effluent limitations. The Board also found that the discharge outfall had extensive cracks, due to the selection of inappropriate materials for its construction, and that the diffusers would often plug with sand in the winter, making the outfall system inoperable.

The former WWTP did not have the hydraulic capacity to treat wet weather flows, so an operational procedure that included bypasses was authorized under the NPDES permit (Order No. 94-112). The bypasses of primary effluent and raw wastewater led to violations of permit limits that form the basis of Cease and Desist Order No. 93-112 (CDO). The CDO establishes time schedules for the City of Pacifica to take necessary measures to achieve full compliance with NPDES permit requirements.
19. In accordance with CDO No. 93-112, the City of Pacifica has conducted various studies to either expand the existing treatment plant or to construct a new facility at a different site. These studies culminated in the selection of the Calera Creek Water Recycling Plant and associated wetlands restoration project as the preferred alternative. Successful completion of the CCWRP start-up and associated provisions of this permit will resolve the issues associated with the CDO.
20. The discharge location is not within the Monterey Bay National Marine Sanctuary (MBNMS), established in September 1992. The boundary of the MBNMS is located

approximately 3.5 miles south of the discharge point, at Point San Pedro, and 6.5 miles west of the discharge point in the Pacific Ocean.

21. The 1986 Basin Plan initiated the Effluent Toxicity Characterization Program (ETCP) in which certain major dischargers (not including the City of Pacifica) were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of appropriate chronic toxicity effluent limitations.

Because the discharger's design flow is less than 5 MGD, the Board did not require the discharger to participate in the ETCP. Nevertheless, wet weather flows exceed the 5 MGD threshold, and to date it has not been determined whether the effluent exhibits chronic toxicity, during dry or wet weather. This permit may be amended in the future to include chronic toxicity effluent limits and monitoring requirements.

22. Federal Regulations for storm water discharges were promulgated by the U.S. Environmental Protection Agency on November 19, 1990. The regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activity (industrial storm water) to obtain a NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.
23. The storm water flows from the wastewater treatment facility process areas are directed to the wastewater treatment plant headworks and treated along with the wastewater discharged to the treatment plant. These storm water flows constitute all industrial storm water at this facility and consequently this permit regulates all industrial storm water discharges at this facility.
24. The sanitary sewer collection system for the City of Pacifica is operating at capacity in a few locations, which increases the likelihood that spills from the collection system, manholes, and pump stations may occur. However, in 1984, 1986, and 1988, trunkline replacement programs were completed in the Linda Mar and northern sections of the City of Pacifica, which greatly improved the system's capability to handle peak flows. Currently, during extreme wet weather, some side sewers will surcharge, but all within the capacity of the system. The Discharger's collection system contains 4 pump stations.
25. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant, collection system, and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual must be kept updated to reflect significant changes in treatment and collection facility equipment and operation practices.

26. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code. The proposed project is in full compliance with the California Environmental Quality Act. A final Environmental Impact Report was approved by the City of Pacifica for the wastewater treatment plant and wetland restoration project in June 1994.
27. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge at the new discharge location and have been provided an opportunity to submit their written views and recommendations.
28. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the City of Pacifica shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of wastewater effluent, except as specified in Finding #4, at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
3. The average dry weather flow discharge shall not exceed 3.3 MGD. The average dry weather flow shall be determined over three consecutive dry weather months each year.
4. Storm water discharges shall not cause pollution, contamination, or nuisance.

B. EFFLUENT LIMITATIONS

The term "effluent" in the following limitations means the fully-treated tertiary effluent from the discharger's wastewater treatment facility, as discharged to Calera Creek, waters of the United States.

1. The effluent discharged to Calera Creek shall not exceed the following limits:

Constituent	Unit	Monthly Average	Daily Maximum	Instant- aneous Maximum
a. Biochemical Oxygen Demand (BOD ₅ , 20°C)	mg/l	10	20	-
b. Total Suspended Solids	mg/l	10	20	-
c. Ammonia-Nitrogen (NH ₃ -N)				
Dry Season (June – Sept.)	mg/l	2	5	-
Wet Season (Oct. – May)	mg/l	5	10	-
d. Oil and Grease	mg/l	5	10	-
e. Settleable Matter	ml/l-hr	0.1	-	0.2
f. Turbidity	NTU	-	-	10

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

3. 85 Percent Removal

The arithmetic mean of the biochemical oxygen demand (five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

4. Total Coliform Bacteria

Dry Season. During calendar months May through October, the moving median value for the Most Probable Number (MPN) of total coliform bacteria in any seven consecutive effluent samples shall not exceed 2.2 MPN per 100 milliliters (2.2 MPN/100ml). Any single sample shall not exceed 240 MPN/100ml.

Wet Season. During calendar months November through April, the moving median value for the Most Probable Number (MPN) of total coliform bacteria in any seven consecutive effluent samples shall not exceed 23 MPN per 100 milliliters (23 MPN/100ml). Any single sample shall not exceed 1,000 MPN/100ml during a wet weather day, as defined by daily rainfall greater than or equal to 0.1 inches. During a dry weather day, any single sample shall not exceed 240 MPN/100ml.

5. Acute Toxicity

A. Definition: The survival of organisms in undiluted effluent shall be an 11-sample median value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11-sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violations of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival;

90th percentile: Any bioassay test showing survival of 70 percent or greater is not a violation of this 90 percentile value limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less tests shows less than 70 percent survival.

B. Test Species and method:

Bioassays shall be performed monthly using a species which is determined to be the most sensitive species following an acute toxicity screening performed by the Discharger. Tests shall be 96-hour flow-through bioassays on a frequency of one per month. Bioassays shall be conducted in compliance with the Methods for Measuring The Acute Toxicity of Effluents and Receiving Water To Freshwater and Marine Organisms, 4th. edition,(EPA-600-4-90-027F), with exceptions granted the Discharger by this Regional Board and the Environmental Laboratory Accreditation Program (ELAP).

6. Toxic Pollutant Effluent Limitations

The effluent shall not exceed the following concentration limits (µg/l):

	<u>Daily Maximum*</u>
Chromium	11
Copper	9.3
Lead	3.2
Mercury	0.025
Selenium	5.0
Zinc	120
Cyanide	5.2

- * These effluent limits are based on an ambient hardness (CaCO₃) of 100 mg/l, and a determination that fresh water quality objectives apply to the Calera Creek discharge. Compliance is determined based on a representative 24-hour composite sample of the effluent, monitored once per calendar month. These limits, based on the existing WWTP, may be revised when new information on the CCWRP discharge is available from the study in Provision E.5.

7. Toxic Organic Pollutant Effluent Limitations
Because the Calera Creek Water Recycling Plant (CCWRP) is a new facility, there are no effluent data on toxic organic substances of concern on which to base a reasonable potential analysis. Provision E.5, below, requires the Discharger to collect effluent data, perform a reasonable potential analysis, and submit the results to the Board by March 1, 2002 (approximately two years from the beginning of full-scale operation). Upon acceptance by the Executive Officer, the permit will be thereafter amended to include recommended effluent limitations for toxic organic pollutants, where warranted based on an analysis of reasonable potential.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter, or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The dissolved oxygen concentration shall not at any time be depressed more than ten percent from that which occurs in the surrounding receiving waters, as the result of the discharge of oxygen demanding waste materials.
3. The pH shall not be changed at any time more than 0.2 units from that which occurs in the surrounding receiving waters.
4. The dissolved sulfide concentration of waters in and near the sediments shall not be significantly increased above that present under natural conditions.
5. The concentration of substances set forth in Chapter IV, Table B of the California Ocean Plan, dated July 23, 1997, in marine sediments shall not be increased to levels that would "degrade" indigenous biota, as determined based on the definition in Appendix I of the Ocean Plan.

6. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated and approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Regional Board will revise and modify this Order in accordance with such more stringent standards.

D. BIOSOLIDS/SLUDGE PRACTICES

1. For biosolids management, the Discharger shall comply with all requirements of 40 CFR Part 503.
2. The Discharger of biosolids shall not allow waste material to be deposited in the waters of the State.
3. The Discharger shall submit an annual report to the US EPA and the Regional Board containing reuse information and other information requirements as specified by 40 CFR Part 503.

E. PROVISIONS

1. Cease and Desist Order No. 93-112 shall remain in full force and effect until compliance with Waste Discharge Requirements is achieved in accordance with the time schedule established therein.
2. Where concentration limitations in mg/l or µg/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

$$(\text{Mass Emission Limit in kg/day}) = (\text{Concentration Limit in mg/l}) \times (\text{Actual Flow in million gallons per day averaged over the time interval to which the limit applies}) \times 3.78 \text{ (conversion factor).}$$
3. The discharger shall comply with all sections of this Order immediately upon adoption.
4. Compliance with Effluent Limitation B.5 shall be determined using 96-hour flow-through fish bioassays, and one of the following test species: three-spine stickleback, fathead minnow, or rainbow trout.
5. Reasonable Potential Analysis and Toxic Organic Pollutant Effluent Limits

The discharger shall furnish water quality data on the levels of toxic organic pollutants of concern in the effluent, and perform a reasonable potential analysis on the data according to applicable State or EPA guidance. A

minimum of 12 data points are required for metals(EPA Methods 200 Series with low detection limits), tributyltin and toxic organic analyses (EPA Methods 608, 610, and 625, or alternatives acceptable to the Executive Officer). To accurately represent the range of effluent quality, effluent sampling shall take place during both wet and dry weather conditions at the point of discharge into Calera Creek, and at a point in Calera Creek between the Pacific Ocean and the end of the restored wetland. The results of the monitoring and analysis shall be presented in a technical report according to the following time schedule. The report will be used as a basis for amendment of this permit with effluent limits for toxic organic pollutants with reasonable potential to cause or contribute to an exceedance of an applicable water quality objective.

<u>Task</u>	<u>Due Date</u>
Effluent Study Proposal	December 31, 1999
Effluent Study and Reasonable Potential Analysis Report	March 1, 2002

6. Acute Toxicity Requirements: Due to the time necessary to set up and perform flow-through bioassay in the new facility, the discharger shall commence 96-hour flow through bioassay **no later than November 1, 1999**. In the interim, the discharge shall perform 96 hour static renewal bioassay as specified in "Methods for Measuring The Acute Toxicity of Effluents and Receiving Water To Freshwater and Marine Organisms, 4th edition."
7. Reasonable Potential Analysis and Effluent Limits for Mercury:
The discharger shall perform a reasonable potential analysis for mercury using the data collected in its monthly effluent analysis from November 1, 1999, to November 30, 2000. The discharger shall submit the result to the Regional Board no later than December 31, 2000. The result of the reasonable potential analysis may be used to revise the effluent limitation for mercury.

April 15 Reporting Requirements

8. The discharger shall develop, review, and update as necessary, its Operations and Maintenance Manual, annually, or within 90 days of completion of any significant facility or process changes. The discharger shall submit to the Board, by April 15 of each year, a letter describing the results of the development and review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.

9. Annually, the discharger shall review and update as necessary, its Contingency Plan as required by Board Resolution 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.
10. The discharger shall implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the discharger's service responsibilities. A Treatment Facilities Evaluation Program report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by April 15 of each year.
11. The discharger shall comply with the Self-Monitoring Program for this order, as adopted by the Board and as may be amended by the Executive Officer.
12. The discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements," dated August 1993, or any amendments thereafter.
13. The discharger shall implement the Wetland Monitoring Plan, dated August 1996, as required by California Coastal Commission Permit (Nos. 1-95-40 and 1-95-59). This Wetlands Monitoring Plan contains monitoring requirements to gauge the success or failure of the wetland project.
14. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions, referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and a statement regarding the transfer. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

15. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
16. This Order expires on September 15, 2004. The discharger must file a report of waste discharge in accordance with Title 23, Division 3, Chapter 9, Article 3 of the California Administrative Code not later than 180 days before this expiration date as application for reissuance of waste discharge requirements.
17. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective on the date of adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
18. Source Control/Pollution Prevention Program
 - a. The Discharger shall implement a pollution prevention program, and shall complete the following program tasks according to the specified compliance schedules:

<u>Task</u>	<u>Deadline</u>
(1) Submit Proposed Pollution Prevention Plan, acceptable to the Executive Officer	February 15, 2000
(2) Implement Source Identification Study to target constituents found to be not in compliance with effluent limits or potentially in violation of effluent limits.	
(a) Complete study for any targeted effluent constituents	November 30, 2000
(b) Develop and initiate source reduction plan	June 30, 2001
(c) Complete implementation of the source reduction plan to reduce pollutant loading to the maximum extent possible	June 30, 2002

- b. The Discharger shall submit annual reports, beginning **July 15, 2000**, that document its efforts and present an evaluation of the pollution prevention program's success.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 15, 1999.

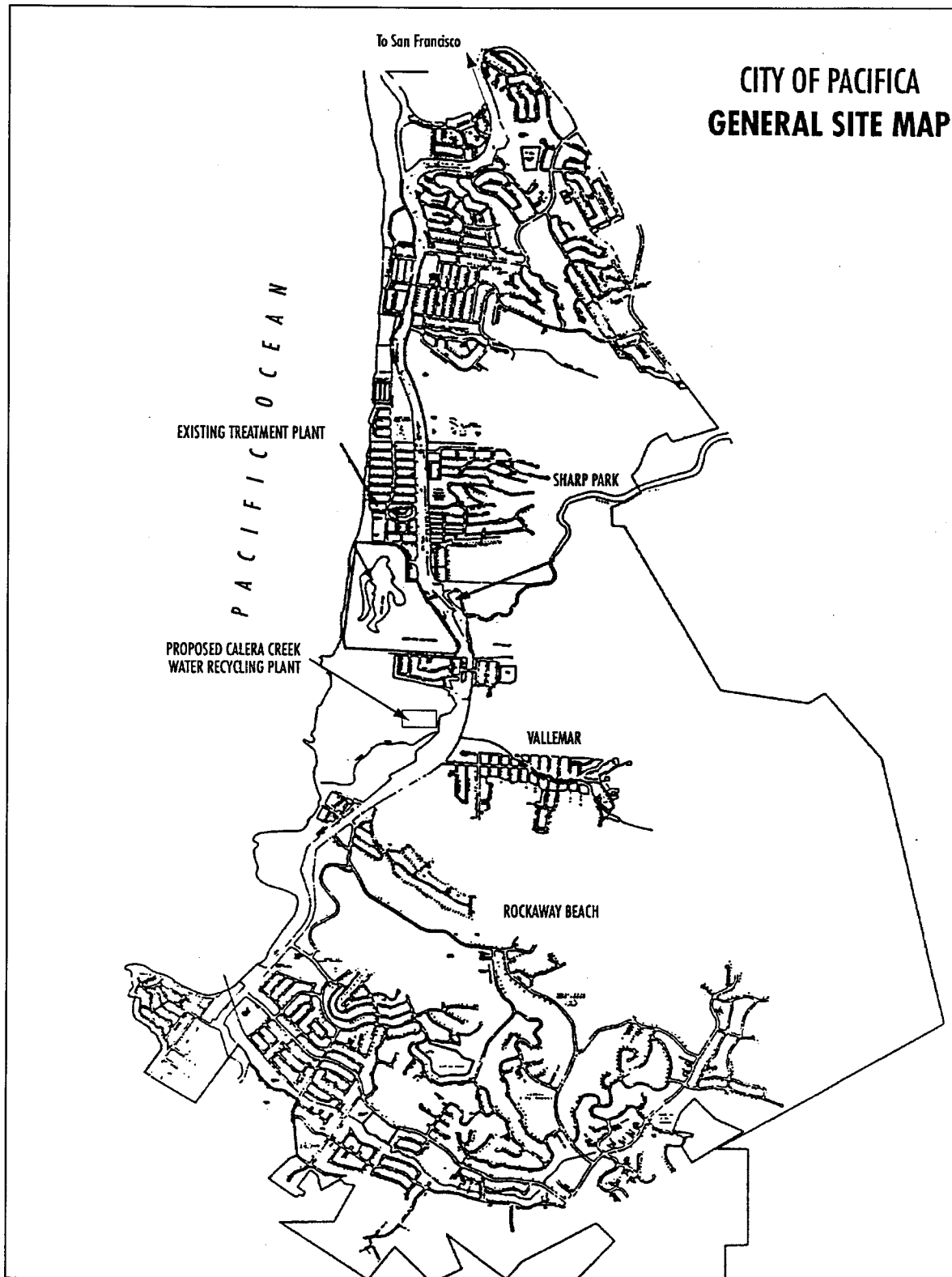
A handwritten signature in cursive script that reads "Loretta K. Barsamian".

Loretta K. Barsamian
Executive Officer

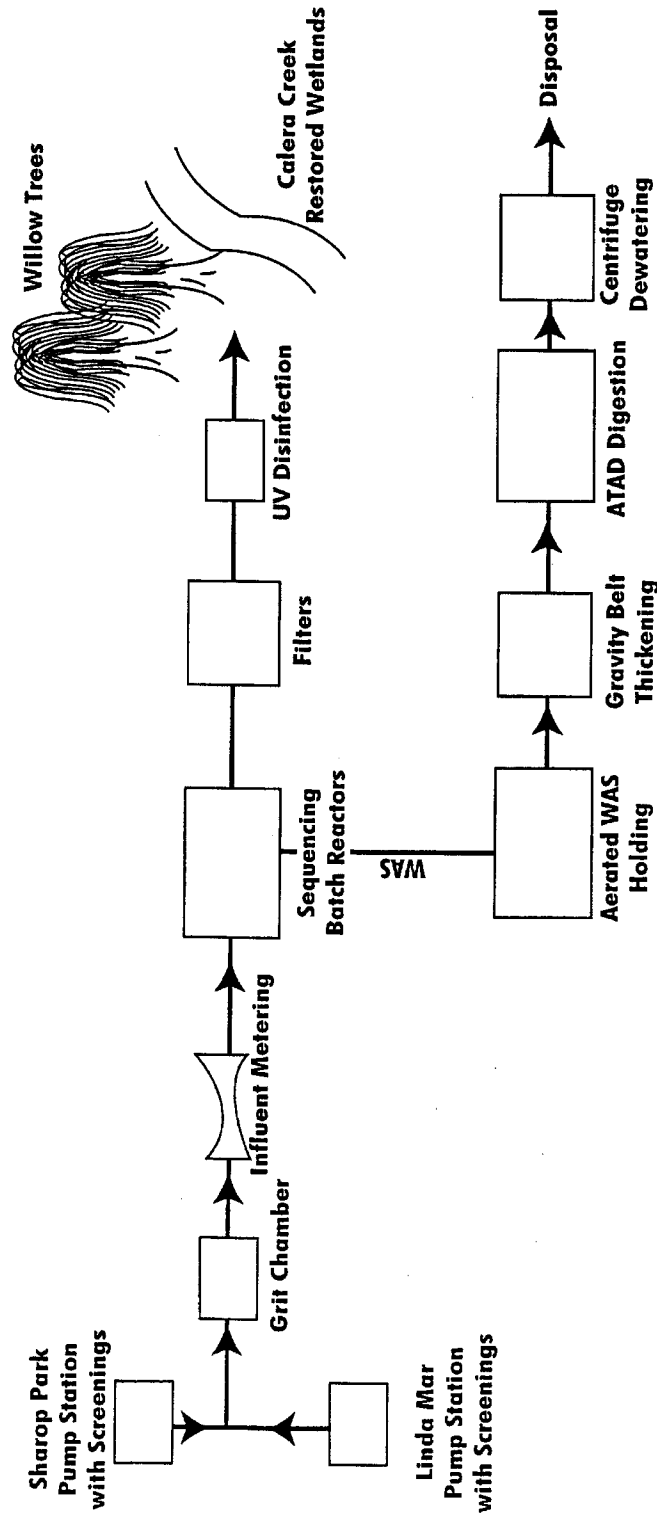
Attachments:

- A. Location/Site Maps
- B. Process Schematic
- C. Self-Monitoring Program

Attachment A Location Map



Attachment B Process Schematic



City of Pacifica
CALERA CREEK WATER RECYCLING PLANT
Schematic of Wastewater Flow



ATTACHMENT C

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CALERA CREEK WATER RECYCLING PLANT
CITY OF PACIFICA
SAN MATEO COUNTY

NPDES PERMIT NO. CA0038776
ORDER NO. 99-066

CONSISTS OF

PART A
(dated August 1993)

AND

PART B
(dated September 15, 1999)

SELF MONITORING PROGRAM

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the treatment facilities between the point of discharge and the point at which all waste tributary to the outfall is present (may be the same as E-001D).
E-001D	At any point in the treatment facilities at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	A point in Calera Creek, approximately 10 feet upstream of the discharge point.
C-2	A point in Calera Creek immediately downstream of the discharge point, where the effluent and receiving water are completely mixed across the creek's cross section.
C-3	A point in Calera Creek at the elevation of mean high high water (MHHW), where ocean water mixes with creek water at high tide.
C-4	A point in the Pacific Ocean at the elevation of mean low low water (MLLW), where water from Calera Creek mixes with ocean water.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 through P- <i>n</i>	Points along the perimeter of the wastewater treatment facilities, at equidistant intervals not to exceed 500 feet.
W-1 through W- <i>n</i>	Points along the perimeter of the wetlands restoration project, at equidistant intervals not to exceed 2,000 feet.

Notes: Arrangements for removal will be made by the Discharger when dead or sick animals are observed at Stations W-1 through W-*n*.

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV- <i>n</i>	Points in the collection system including manholes, pump stations, or any other location where overflows and bypasses occur.

- Notes: (1) A map and description of each known overflow or bypass location shall accompany the annual report for each calendar year.
- (2) Each occurrence of an overflow or bypass shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections F.1 and F.2 of Part A.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

The schedule of sampling, measurements, and analysis shall be that given as Table 1 (and Table 1 footnotes).

III. MODIFICATIONS TO PART A

- A. This monitoring program does not include the following sections of Part A: C.2.g, C.3, C.4.b, C.5, D.4, and E.5.b.

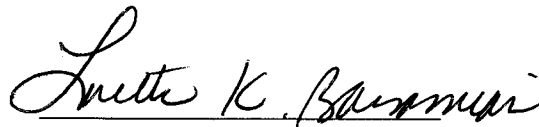
IV. REPORTING REQUIREMENTS

- A. Self-monitoring reports for each calendar month shall be submitted monthly, to be received no later than **the 15th day of the following month**. The required contents of these reports are specified in Section F.4 of Part A.

- B. An annual report covering the previous calendar year shall be submitted to the Regional Board by **February 15th** of each year. The required contents of the annual report are specified in Section F.5 of Part A.
- C. Any overflow, bypass, or other significant non-compliance incident that may endanger public health or the environment shall be reported according to Sections F.1 and F.2 of Part A.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing self-monitoring program:

- 1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 99-066.
- 2. Was ordered by the Board on September 15, 1999.
- 3. May be reviewed at any time subsequent to the above date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.


Loretta K. Barsamian
Executive Officer

Attachments: Table 1 with footnotes
Part A of Self-Monitoring Program, dated August 1993

Table 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	Units	Recommended Detection Limit	A-001	E-001			E- 001D	All C	All OV	All P/W	Misc. Observation
TYPE OF SAMPLE			C-24	G	C-24	Cont.	G	G	O	O	O
Flow Rate	mgd					D					
BOD, 5-day, 20° C, or CBOD (1,4)	mg/l kg/day		2/W(4)		2/W(4)						
COD (1)	mg/l kg/day				D						
Total Suspended Solids	mg/l kg/day		2/W(4)		2/W(4)						
Oil & Grease	mg/l kg/day		2/M	2/M							
Settleable Matter	ml/l-hr ft ³ /day			D							
Turbidity (1)	NTU				D						
Acute Toxicity 96-hr.	percent survival				M(5)						
Ammonia Nitrogen (3)	mg/l kg/day				W	D(3)		2/Y			
Nitrate Nitrogen	mg/l kg/day				W			2/Y			
Total Organic Nitrogen	mg/l kg/day				W			2/Y			
Total Phosphate	mg/l kg/day				2/M			2/Y			
pH	pH units			D	M			2/Y			
Dissolved Oxygen	mg/l % saturation			D	M			2/Y			
Temperature	C°			D	M		5/W	2/Y			
Total Coliform	MPN/100ml										
sulfides (if DO<5.0 mg/l)	mg/l			D				2/Y			
Total & Dissolved											
All Applicable Standard Observations				D				M	E	2/W	

Table 1

Sampling Station	Units	Recommended Detection Limit	A-001	E-001			E-001D	All C	All OV	All P/W	Misc. Observation
TYPE OF SAMPLE			C-24	G	C-24	Cont.	G	G	O	O	O
Daily Rainfall	inches										Cont.
Arsenic	µg/l	5.0	2M		M(6)						
Cadmium	µg/l	1.0	2M		M(6)						
Chromium (IV)	µg/l	5.0	2M		M(6)						
Copper	µg/l	2.0	2M		M(6)						
Lead	µg/l	3.0	2M		M(6)						
Mercury	µg/l	0.01	2M		M(6)						
Nickel	µg/l	5.0	2M		M(6)						
Selenium	µg/l	1.0	2M		M(6)						
Silver	µg/l	0.5	2M		M(6)						
Zinc	µg/l	10	2M		M(6)						
Cyanide	µg/l	3.0	2M		M(6)						
Phenolic Compounds	µg/l	5.0	2M		M(6)						
EPA Methods 608, 610, 624, and 625 (Toxic Organics)	µg/l				2/Y(6)						
Tributyltin	µg/l				2/Y(6)						
Acrolein	µg/l	220			Y			Y			
Antimony	µg/l	1,200			Y			Y			
Bis(2-chloroethoxy) methane	µg/l	4.4			Y			Y			
Bis(2-chloroisopropyl) ether	µg/l	1,200			Y			Y			
Chlorobenzene	µg/l	570			Y			Y			

Table 1

Sampling Station	Units	Recommended Detection Limit	A-001	E-001			E-001D	All C	All OV	All P/W	Misc. Observation
TYPE OF SAMPLE			C-24	G	C-24	Cont.	G		O	O	O
Chromium (III)	µg/l	190,000			Y			Y			
Di-n-butyl phthalate	µg/l	3,500			Y			Y			
Dichlorobenzenes	µg/l	5,100			Y			Y			
1,1-Dichloroethylene	µg/l	7,100			Y			Y			
Diethyl phthalate	µg/l	33,000			Y			Y			
Dimethyl phthalate	µg/l	820,000			Y			Y			
4,6 Dinitro-2-methylphenol	µg/l	220			Y			Y			
2,4-Dinitrophenol	µg/l	4.0			Y			Y			
Ethylbenzene	µg/l	4,100			Y			Y			
Fluoranthene	µg/l	15			Y			Y			
Hexachlorocyclopentadiene	µg/l	58			Y			Y			
Isophorone	µg/l	150,000			Y			Y			
Nitrobenzene	µg/l	4.9			Y			Y			
Thallium	µg/l	14			Y			Y			
Toluene	µg/l	85,000			Y			Y			
1,1,2,2-Tetrachloroethane	µg/l	1,200			Y			Y			
1,1,1-trichloroethane	µg/l	540,000			Y			Y			
1,1,2-trichloroethane	µg/l	43,000			Y			Y			
Acrylonitrile	µg/l	0.1			Y			Y			
Aldrin	µg/l	0.000022			Y			Y			
Benzene	µg/l	5.9			Y			Y			
Benzidine	µg/l	0.000069			Y			Y			
Beryllium	µg/l	0.033			Y			Y			

Table 1

Sampling Station	Units	Recommended Detection Limit	A-001	E-001			E- 001D	All C	All OV	All P/W	Misc. Observation
TYPE OF SAMPLE			C-24	G	C-24	Cont.	G	G	O	O	O
Bis(2-chloroethyl) ether	µg/l	0.045			Y			Y			
Bis(2-ethylhexyl) phthalate	µg/l	3.5			Y			Y			
Carbon tetrachloride	µg/l	0.9			Y			Y			
Chlordane	µg/l	0.000023			Y			Y			
Chloroform	µg/l	130			Y			Y			
DDT	µg/l	0.00017			Y			Y			
1,4-Dichlorobenzene	µg/l	18			Y			Y			
3,3-Dichlorobenzidine	µg/l	0.0081			Y			Y			
1,2-Dichloroethane	µg/l	130			Y			Y			
Dichloromethane	µg/l	450			Y			Y			
1,3-Dichloropropene	µg/l	8.9			Y			Y			
Dieldrin	µg/l	0.00004			Y			Y			
2,4-Dinitrotoluene	µg/l	2.6			Y			Y			
1,2-Diphenylhydrazine	µg/l	0.16			Y			Y			
Halomethanes	µg/l	130			Y			Y			
Heptachlor	µg/l	0.00072			Y			Y			
Hexachlorobenzene	µg/l	0.00021			Y			Y			
Hexachlorobutadiene	µg/l	14			Y			Y			
Hexachloroethane	µg/l	2.5			Y			Y			
N-nitrosodimethylamine	µg/l	7.3			Y			Y			
N-nitrosodiphenylamine	µg/l	2.5			Y			Y			
PAHs	µg/l	0.0088			Y			Y			
PCB	µg/l	0.000019			Y			Y			
TCDD equivalents	µg/l	0.0000000039			Y			Y			

Table 1

Sampling Station		Recommended Detection Limit	A-001	E-001			E-001D	All C	All OV	All P/W	Misc. Observation
TYPE OF SAMPLE	Units		C-24	G	C-24	Cont.	G	G	O	O	O
Tetrachloroethylene	µg/l	99			Y			Y			
Toxaphene	µg/l	0.00021			Y			Y			
Trichloroethylene	µg/l	27			Y			Y			
2,4,6-Trichlorophenol	µg/l	0.29			Y			Y			
Vinyl chloride	µg/l	36			Y			Y			

LEGEND FOR TABLE 1

TYPES OF SAMPLES

G = grab sample
 C-24 = 24-hour composite sample
 Cont = continuous sampling
 O = observation

TYPES OF STATIONS

A = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 P = treatment facility perimeter stations
 OV = overflows and bypasses

FREQUENCY OF SAMPLING

E = each occurrence 2/H = twice per hour
 H = once each hour 2/W = 2 days per week
 D = once each day 5/W = 5 days per week
 W = once each week 2/M = 2 days per month
 M = once each month
 Y = once each year
 2/Y = once in March and once in September
 Cont = continuous
 Q = quarterly, once in March, June, September, and December

2H = every 2 hours
 2D = every 2 days
 2W = every two weeks
 2M = every 2 months

TABLE 1 FOOTNOTES

- (1) The discharger may submit continuous COD monitoring data in lieu of BOD on the condition that the discharger furnishes a one-year effluent study, acceptable to the Executive Officer, that demonstrates a statistically significant correlation between the two effluent water quality measurements. In such circumstances, a BOD value, calculated according to the statistically significant correlation, must be reported along with a corresponding daily average COD value.
- (2) The discharger may submit continuous turbidity monitoring data in lieu of TSS on the condition that the discharger furnishes a one-year effluent study, acceptable to the Executive Officer, that demonstrates a statistically significant correlation between the two effluent water quality measurements. In such circumstances, a TSS value, calculated according to the statistically significant correlation, must be reported along with a corresponding daily average turbidity value.
- (3) The discharger may submit continuous ammonia-nitrogen monitoring data in lieu of laboratory analyses on the condition that the discharger furnishes a one-year effluent study, acceptable to the Executive Officer, that demonstrates a statistically significant correlation between the two effluent water quality measurements. In such circumstances, $\text{NH}_3\text{-N}$ must be measured annually using laboratory methods to verify the accuracy of the continuously monitored ammonia-nitrogen values. If the continuously monitored values are found to be over $\pm 10\%$ different than the laboratory value, then the laboratory method shall be reinstated as the required monitoring method.
- (4) After two years of operation, the discharger may decrease sampling frequency for the indicated constituents to W (weekly) provided that no instances of noncompliance with corresponding effluent limits have been recorded during that time period.
- (5) Acute toxicity shall be determined using 96-hour flow-through or static fish bioassays. If static methods are used, then the discharger must use 24-hour composite samples representative of the discharged effluent. One of the following test species must be used: three-spined stickleback, fathead minnow, or rainbow trout.
- (6) Monitoring for Toxic Pollutants to support the Effluent Study (Provision E.5) shall be twice per year for tributyltin, and the toxic organic pollutants, measurable by EPA methods 608, 610, 624, and 625. The results of two years of monitoring shall be submitted to the Board as part of a reasonable potential analysis to determine which pollutants should have numeric effluent limits. If a pollutant is determined to not have a reasonable potential to cause or contribute to a water quality violation in Calera Creek, then monitoring frequency shall be reduced to quarterly for metals, phenol, and cyanide, and to annually for the remainder of the toxic pollutants